intertek caleb brett

LE No. 004

# Report of Analysis

Diego Pantoja
Refineria Panama S.A.
Cativá, Bahía Las Minas
Refinería de Panama, Terminal de Combustibles
Colon, Panama

Laboratory Report ID : 3044544
Job No. : 2018-PANA-000364
Client Reference : N/A

**Sample ID** : 2018-PANA-000364-001
**Product** : ULSD
**Sampling Point** : VOPAK
**Job Location** : Bahía Las Minas
**Representing** : ***Shore Tank D-2129 / Composite Sample / After Discharge M,T " Sunny Isles "***

**Date Taken** : 30-Apr-2018
**Date Submitted** : 30-Apr-2018
**Date Tested** : 01-May-2018
**Drawn By** : Intertek

| Method | Test | Result | Units | Specification Limit |
|---|---|---|---|---|
| ASTM D4052 | API Gravity @ 60°F | 38.3 | °API | Min 32.0 |
| ASTM D1500 | ASTM Color | <0.5 | | Max 2.5 |
| ASTM D93 | Procedure Used | A | | |
| | Corrected Flash Point | 64.0 | °C | Min 60.0 |
| ASTM D4176 | Appearance | Bright & Clear | | Bright & Clear |
| ASTM D2709 | Water and Sediment | 0 | Vol % | Max 0.05 |
| ASTM D482 | Ash | < 0.001 | Wt % | Max 0.010 |
| ASTM D189 | Conradson Carbon Residue on 10% distillation residue | < 0.01 | Wt % | Max 0.30 |
| ASTM D130 | Copper Corrosion @ 50ºC (122ºF)/3 hr | 1a | | Max 2 |
| ASTM D445 | Kinematic Viscosity 40 °C | 2.425 | cSt | 1.9 - 4.1 |
| ASTM D976 | Cetane Index | 49.7 | | Min 45.0 |
| ASTM D6079 | Major Axis | 440 | µm | |
| | Minor Axis | 380 | µm | |
| | Wear Scar Diameter | 410 | µm | Max 520 |
| ASTM D86 | Barometric Pressure | 756.0 | mm Hg | |
| | 10% Recovery | 203.0 | °C | Report |
| | 50% Recovery | 253.5 | °C | Max 288 |
| | 90% Recovery | 318.5 | °C | 282 - 338 |
| | Final Boiling Point | 345.5 | °C | Report |
| | Residue | 1.5 | Vol % | Max 2 |
| ASTM D2622 | Sulfur Content | 8.0 | mg/kg | Max 15 |
| ASTM D2624 | Temperature | 24 | °C | |
| | Electrical Conductivity | 380 | pS/M | Min 25 |
| EN 14078 | Range | A | | |
| | Fatty Acid Methyl Esters (FAME) | < 0.05 | %(V/V) | Max 0.10 |

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ICBFCA-019
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***Lote: 0418LDO024***
***Volumen Total: 179,620.73 BBLS.***
***Volumen Disponible: 159,970.73 BBLS.***

Signed: Alsin Angelo Laboratory Manager Date: 02-May-2018

Intertek Caleb Brett Panama, Inc.
Alsin Angelo, Laboratory Manager